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AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings, of claims in the application.

1. (Original) A system for detecting and monitoring ILD void formation, comprising:

a light source directed to at least one portion of an ILD layer;

a measuring system for measuring parameters of the ILD layer based on light reflected from the at least one portion of the ILD layer; and

a processor operatively coupled to the measuring system, the processor receiving ILD layer parameter data from the measuring system and the processor using the data to determine the presence of a void in the ILD layer.

2. (Original) The system of claim 1, the measuring system further including a scatterometry system for processing the light reflected from the ILD layer.

3. (Original) The system of claim 1, where the measuring system further measures parameters of the ILD layer based on light passing through the ILD layer.

4. (Original) The system of claim 3, the processor being operatively coupled to the scatterometry system, the processor analyzing data relating to ILD voids received from the scatterometry system, and the processor basing a determination of whether an ILD void exists at least partially on the analyzed data.

5. (Original) The system of claim 4, the data further relating to thickness of the ILD layer.

6. (Original) The system of claim 1, the processor mapping the ILD layer into a plurality of grid blocks, detecting the presence of an ILD void at a grid block, and comparing it to known ILD void values to determine the dimensions of the void.

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7. (Original) The system of claim 6, where the processor determines the existence of an unacceptable ILD void for at least a portion of the ILD layer based upon the determined ILD void differing from an acceptable value.

8. (Original) A method for detecting and monitoring ILD void formation, comprising:

        defining an ILD layer as a plurality of portions;

        directing light onto at least one of the portions;

        collecting light reflected from the at least one portion;

        comparing a reflected light array from the at least one portion to a database, where the database comprises known ILD layers having at least one void present, to determine the presence of the at least one void in the at least one portion associated with the ILD layer; and

        selectively marking an ILD layer portion as having the at least one void.

9. (Original) The method of claim 8, further comprising using a scatterometry system to process the reflected light.

10. (Original) A method for detecting and monitoring ILD void formation, comprising:

        partitioning an ILD layer into a plurality of grid blocks;

        directing light onto at least one of the grid blocks;

        collecting light reflected from the at least one grid block;

        comparing a reflected light array from the at least one grid block to a database, where the database comprises known ILD layers having at least one void present, to determine the presence of the at least one void in the at least one portion associated with the ILD layer; and

        selectively marking the ILD layer grid block as having the at least one void, where the ILD layer grid block corresponds to a portion of the ILD layer.

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11. (Original) A system for detecting ILD void formation, comprising:

means for detecting ILD void formation in a plurality of portions of the ILD layer and;

means for selectively marking an ILD layer portion as having a void formed therein.

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